

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property Organization International Bureau



(43) International Publication Date
30 June 2005 (30.06.2005)

PCT

(10) International Publication Number
WO 2005/059477 A2

(51) International Patent Classification⁷:

G01F

Enrique, Dr. [US/US]; Urb. San Francisco, 1675 Calle Lilas, San Juan, 00927 (PR).

(21) International Application Number:

PCT/US2004/042099

(74) Agents: REA, Teresa, Stanek et al.; BURNS, DOANE, SWECKER & MATHIS, LLP, PO BOX 1404, Alexandria, Virginia 22313-1404 (US).

(22) International Filing Date:

16 December 2004 (16.12.2004)

(81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

(25) Filing Language:

English

(26) Publication Language:

English

(30) Priority Data:

60/530,376 17 December 2003 (17.12.2003) US

(84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM,

(71) Applicant (for all designated States except US): MOVA PHARMACEUTICAL CORP. [US/US]; State Road No. 1, R/Km. 34.8, Zona Parque Industrial Villa Blanca, Zafiro Street (Final), Caguas, 00725 (PR).

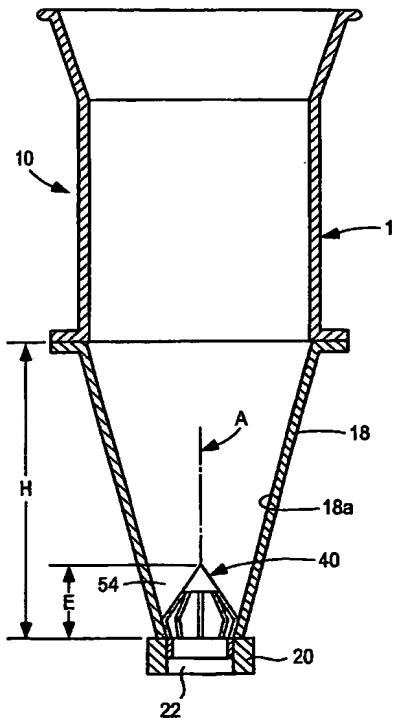
(72) Inventor; and

(75) Inventor/Applicant (for US only): NIEVES-VAZQUEZ,

[Continued on next page]

(54) Title: HOPPER WITH FLOW CONTROLLER/ENHANCER FOR CONTROLLING THE GRAVITATIONAL FLOW OF GRANULAR MATERIAL

(57) Abstract: A hopper assembly for feeding granular material, such as pharmaceutical powder, includes a hopper having an upper inlet and a lower outlet defining a substantially vertical center axis, and a flow controller/enhancer disposed in the hopper adjacent the outlet. The flow controller/enhancer includes a deflector element disposed in the hopper above the outlet. The deflector element is of generally conical shape with an apex thereof directed upwardly in substantial alignment with the vertical center axis. An outer peripheral edge of the deflector element is spaced inwardly from an inner surface of the hopper to define a space therebetween where gravitating granular material deflected outwardly by the deflector element flows downwardly past the deflector element toward the outlet.



WO 2005/059477 A2



ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

Published:

- *without international search report and to be republished upon receipt of that report*